ABOUT THIS MAP

This map summarizes information on haulout sites and minor rookeries for the California sea lion (*Zalophus californianus*) in the study area, based on number of animals, frequency of use, and rookery status. See also the map and description on the at-sea densities of California sea lion.

DATA AND METHODS

Haulout data and rookery information are from aerial photo counts (July 1998 - 2004) provided by Mark Lowry of the Southwest Fisheries Science Center, NOAA's National Marine Fisheries Service, La Jolla, CA.

Counts from aerial photographs (July 1998 -2004) were used to calculate frequency of use for each haulout location and the mean number of animals using each location when that location was occupied. Rookery status was determined by the inclusion of pups in the counts.

RESULTS AND DISCUSSION

Haulout sites for the California sea lions in the study area are located along the coast from Fish Rocks (just south of Point Arena) to the south at Point Sal Rock, and inside San Francisco Bay (Pier 39). Minor rookeries are located on the Southeast Farallon Island and Año Nuevo Island (shown in red) and, similar to at-sea occurrence patterns, presence/absence at these minor rookeries may be related to the ocean climate variability in the California Current System.

During warm-water periods, some California sea lions move up from south of the study area and temporarily increase production (number of pups born). For example, over the seven-year period from 1998-2004, the number of pups born annually at Año Nuevo Island was often less than 12, except in 1998 and 2003; during the 1998 season, 99 pups were observed, and during the 2003 pupping season, 48 pups were observed.

Occasional minor rookeries (shown on the map in pink) occurred near Partington Pt., Pt. Piedras Blancas, and south of the Monterey National Marine Sanctuary at Lion Rock, Pup Rock, Pecho Rock and Pt. Sal Rock. Numbers of pups born at the occasional minor rookeries varied from zero to five with a peak of 12 during the strong 1998 El Niño event. Haulout patterns at the Farallon Islands and Point Reyes National Seashore also changed during El Niño events, indicated by an influx of immatures (Sydeman and Allen, 1999; Allen, pers. comm.).

Within the Gulf of the Farallones and Monterey Bay National Marine Sanctuaries, haulout sites with the highest mean counts during 1998 – 2004 occurred at Bodega Rock, the Farallon Islands, Año Nuevo Island, Sea Lion Rocks, Pt. Lobos, and Pt. Piedras Blancas; to the south of the MBNMS boundary, haulout sites with the highest mean counts occurred at Lion Rock, Pecho Rock, and Pt. Sal Rock.

For information on the diet and threats to California sea lion, see the previous map description of the at-sea map for this species.